

The Approval System for Joint Implementation Projects in Russia – Criteria and Organisation

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Sammendrag/Abstract <p>The Kyoto mechanisms are truly market-based in the sense that there will be considerable competition between the receiving parties, i.e. the host countries. Joint implementation (JI) projects and projects under the Clean Development Mechanism (CDM) with foreign participation will in the future most likely be evaluated on the basis of costs per ton reduced emissions, as well as commercial criteria, and projects through these two mechanisms will compete with each other.</p> <p>The ‘system’ that has been in place in the AIJ phase until now, has not been efficient in attracting foreign investors, at the same time as it has been a barrier towards realisation of projects by Russian enterprises and regional authorities. The main explanation is that the structures in charge have lacked authority and have not been set up to deal with the economic and energy aspects of the climate problem.</p> <p>The general principles that should guide the design of the system are as follows:</p> <ul style="list-style-type: none">• Standardised procedures• A simple institutional setting with a national/regional focal point.• Clearly defined lines of authority• Transparency• Separation of project implementers from controllers	
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Foreword

This work is the result of a joint effort by specialists from the Institute of Energy Strategy under the Russian Ministry of Energy, the Institute of Global Energy Efficiency and Ecology, and the Fridtjof Nansen Institute in Norway. The preparations for this project started before the first part of the sixth conference of the parties under the climate convention (COP 6), which took place in November 2000 in The Hague. At the time it was expected that the comprehensive preparatory work on the establishment of mechanisms to regulate co-operation, control and verification under emissions trading, joint implementation and clean development projects, would be concluded by adoption of documents mutually agreed upon.

The fruitless conclusion of the first part of COP 6 was the result of serious disagreements and contradictions among the group of developing countries, the EU and the countries in the 'umbrella' group about the implementation of the Kyoto Protocol. The disagreements in the world community were further increased by the new US President's announcement of a negative attitude to the Kyoto protocol and the intention not to ratify it. This decision not only reduces the effect of implementation of the protocol; it also threatens implementation in itself.

In the situation which has emerged, the search for a common language with the world community, which is very important for Russia, is not possible without the establishment of a shared understanding of Russia's participation in UNFCCC. Disagreements persist also after the Russian government signed the Kyoto protocol. On the national level, the legal, financial, and technical conditions for a 'carbon market' do not exist. Establishment of such conditions is an obligation of the Russian Government, but it is happening slowly.

Without important changes, the absence of a unified authority and dedicated budget chapters, as well as differences in interests and approaches among government agencies, will not permit the government to create the necessary instruments to exploit the unique opportunity of attracting large investments to development of an energy-efficient economy.

On the background of this situation, the work presented here examines the problem of establishing a system for approval of Joint Implementation projects in Russia as a whole, and also draws attention to strong and weak aspects of the existing approval system. The report considers the fundamental requirements for a new approval system; the most important of which are simplicity and transparency. In our opinion this work is necessary to activate and expand mutually beneficial co-operation between Russia and Western countries to meet the goals set by the UNFCCC and the Kyoto Protocol, and particularly to help speed up the establishment in Russia of the legal, organisational and financial preconditions for realisation of the provisions in the Kyoto Protocol.

The report has been written on an independent basis by researchers and consultants at three institutes: Institute of Energy Strategy, Institute of Global Problems of Energy Efficiency and Ecology, The Fridtjof Nansen Institute. Contributors are listed below. The authors are grateful for comments from participants at a climate policy workshop in Moscow, May 2001. Some conclusions from the project were also presented at a meeting of senior environmental officials in the Barents Euro-Arctic Region, in Oslo, March 2001, as well as at a seminar on NGOs and climate change, in Moscow, June 2001. Special thanks to Gaudenz Assenza of the FNI and Inger Johanne Wiese of the Norwegian Ministry of Environment for comments and suggestions. The project has received financial support from the Norwegian Ministry of Environment and Ministry of Foreign Affairs. Neither of these bodies bears any responsibility for the conclusions in the report.

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1. INTRODUCTION

Executive summary

The Kyoto Protocol introduces mechanisms that allow for transfer of emissions units across national borders. This report discusses how a project-based system should be designed to operate effectively in a Russian context.

The Kyoto mechanisms are truly market-based in the sense that there will be considerable competition between the receiving parties, i.e. the host countries. JI projects and projects under the Clean Development Mechanism (CDM) with foreign participation will in the future most likely be evaluated on the basis of costs per ton reduced emissions, as well as commercial criteria, and projects through these two mechanisms will compete with each other.

The 'system' that has been in place in the AIJ phase until now, has not been efficient in attracting foreign investors, at the same time as it has been a barrier towards realisation of projects by Russian enterprises and regional authorities. The main explanation is that the structures in charge have lacked authority and have not been set up to deal with the economic and energy aspects of the climate problem.

The general principles that should guide the design of the system are as follows:

- standardised procedures
- A simple institutional setting with a national/regional focal point.
- Clearly defined lines of authority
- Transparency
- Separation of project implementers from controllers

The Kyoto Mechanisms

The United Nations Framework Convention on Climate Change and the ensuing Kyoto Protocol of 1997 represent a unique attempt at influencing human activity by way of international agreements. The potential repercussions of a binding climate treaty on industrial activity as well as consumer behaviour throughout the world are considerable, but exactly

how and when the effects will become manifest is unclear, since agreement has not been reached concerning rules and guidelines for implementation.

To alleviate possible adverse economic effects of comprehensive limits on greenhouse gas emissions, *flexibility mechanisms*, also referred to as the *Kyoto mechanisms*, were included in the Kyoto Protocol. The purpose of these mechanisms is to ensure that measures designed to curb emissions would be cost-effective, by channelling investments in energy efficiency and other emissions-reduction measures to countries and projects where cost per unit of emissions reduction is lowest. This concept would entail a large-scale resource transfer from relatively energy-efficient, high-cost countries to relatively energy-inefficient, low-cost countries.

The flexibility mechanisms in the Kyoto Protocol establish a new global market, namely that for tradable greenhouse-gas emission quotas. Russia has the potential to become an important player in this market. This can happen in two ways. One option is emissions trading (ET), i.e. sale of emission quotas. The basic idea behind this mechanism is that trading of emissions quotas within and between countries will help allocate investments in abatement measures to industries or countries where the investments have the highest pay-off. The other mechanism is Joint implementation (JI) where a foreign investor invests in abatement projects in Russia and receives emission reduction units (ERUs) that he can use to offset his own emissions at home.

The controversy over 'excess quotas'

For most of the Annex 1 countries, the targets set for the first commitment period (2008-2012) imply that measures must be taken if the targets are to be achieved. These measures could either be domestic, e.g., policies to reduce energy consumption and cut emissions, or they could rely on use of the international flexibility mechanisms, in essence investing in cheaper emission reductions in other countries. Generally, emissions from Annex I countries have increased since 1990 to a level that makes it unrealistic to meet the commitments with domestic measures only. But Russia's situation is different. Russia's target (assigned amount of quotas) is to have emissions on the same level as in 1990. However, due to the decline of the economy since 1990, Russia will most likely have emissions considerably below the 1990-level in 2008. In other words, Russia will have more quotas than it needs for offsetting

its own emissions in the first commitment period 2008-2012. These “excess” quotas, or unused assigned amounts – often called “hot air quotas” – can in principle be sold to other parties. Thus, Russia would be in position to sell emission quotas without undertaking any measures to reduce climate gas emissions. Many specialists in Western countries, who argue that it contradicts the overall goal of the climate regime, which is to reduce emissions, not to shift pollution rights, contest the use of such quotas. But the handling of Russia’s assigned amounts also relates to Russian domestic implementation, which is the theme in this report.

Among foreign analysts, the prevailing view is that there will exist a large amount of excess quotas by 2008.¹ However, within Russia both the actual volume of ‘hot air’ and the eventual use of such quotas are contested issues. Official, optimistic forecasts of economic growth indicate that most of the hot air will have disappeared by 2008. Accordingly, the excess quotas should not be touched, but remain as a reserve for expansion of the Russian economy with accompanying growth in energy consumption and emissions. A reassessment of future Russian emissions is underway in the new Energy Strategy of Russia, with less rapid growth in energy consumption. Nevertheless, it indicates that the ‘hot air’ will be used up by 2020, again implying that Russia needs the emission quotas itself.

Other critics of ‘hot air’ have a very different point of departure. They argue that economic growth in the longer term is dependent on increased energy efficiency. In other words, emissions must go down if the economy is to grow. But they are concerned that the *sale* of hot air quotas will just mean an additional revenue source for the state and take away the incentive to invest in energy efficiency and modernisation. Consequently, when the hot air is used up Russia will be in a relatively worse competitive position than now.

Against this argument it is maintained that Russia could use all or parts of the proceeds from sale of excess quotas to invest in energy efficiency. As will be discussed later this is a proposal, which also has been included in official Russian statements.²

¹ See e.g. Vrolijk, Christiaan with Tobias Koch (1999): Workshop Report: *Russian Energy Prospects and the Implications for Emissions and Climate Policy*, London: Royal Institute of International Affairs

² The ‘hot air’ issue is discussed further in Moe, Arild and Kristian Tangen: *The Kyoto Mechanisms and Russian Climate Politics*, London, Royal Institute of International Affairs, 2000.

The flexibility mechanisms and the potential for further emission reductions

In addition to the controversial excess quotas, Russia also offers abundant opportunities for reducing emissions with investment costs that are lower than the likely international price for quotas. The centrally planned economy was extremely energy intensive, and developments since 1990 have increased the intensity further. Russia uses several times the amount of energy per unit of GDP than Western countries do.³ Realising this potential for low-cost abatement could mean substantial benefits for Russia, including more efficient production structures, foreign investments, and improved local environmental quality. But how should this potential be realised?

In well-functioning market economies, low-cost abatement measures can be realised by allocating quotas to the emitters and allow them to trade. This will create incentives for implementation of measures that have a lower cost than the market price for quotas. However, to be able to function effectively, domestic emissions trading systems require economic transparency and the work of price-mechanisms within a stable institutional framework. It is questionable whether the Russian economy currently fulfils these criteria.

An alternative is to establish a system that is project-based; i.e. where quotas are derived directly from concrete abatement projects. When investments are made that contribute to reduction of emissions, the government transfers tradable quotas to the private or public entities that have invested. This report discusses such a system for domestic implementation.

Requirements for an efficient project based system

An important point of departure is to seek as cost-effective and simple organisational solutions as possible for a project-based system, to make investments in Russia attractive for potential foreign investors. In many economies in transition – as well as in developing

³ For several reasons it is difficult to provide an accurate comparison between the Russian economy and OECD economies on this point and estimates vary. According to the Energy Information Administration of the US Department of Energy, Russia's energy intensity in 1997 was five times higher than the US level. <http://www.eia.doe.gov/emeu/cabs/russenv.html>. In Bill Chandler: *Energy and Environment in the Transition Countries*, Boulder: Westview Press, p. 14, Russias energy intensity is estimated to be three times higher than the United States'. According to *The Russian energy strategy for the period until 2020*, the energy intensity in the Russian economy in 2000 was 2.5 higher than in the United States.

countries – there seems to be a widespread expectation that investments channelled through the Kyoto mechanisms will be “pennies from heaven”. In other words, the impression is that when the Kyoto Protocol enters into force, numerous foreign companies will stand on their doorstep eager to make project-investments in return for quotas. Most likely, this will not be the case.

The Kyoto mechanisms are truly market-based in the sense that there will be considerable competition between the receiving parties, i.e. the host countries. JI projects and projects under the Clean Development Mechanism (CDM) with foreign participation are in the future likely to be evaluated on the basis of economic considerations, and projects through these two mechanisms will compete with each other. This does not only relate to the cost of the emission cuts achieved through the project – and thus the price of the quotas the foreign investor can obtain. Joint implementation projects will have other effects that also enter the investor’s calculation, in terms of for instance products sold from a revamped factory, or market access for one’s own products. The additionality requirement (see below) means that projects that would have been undertaken for purely commercial reasons will not be eligible as JI projects. However, this does not mean that ordinary commercial criteria can be disregarded. Without commercial benefits to offset the barriers and risks associated with JI in Russia, there is likely to be very few JI projects. For a foreign investor the transfer of ERUs must be the factor that tips the scale in favour of carrying out the project. In other words a project that would not have been implemented without the Kyoto Protocol, will be interesting with the protocol in force.

The exact definition of additionality is not simple, and the scope for other commercial criteria has been a matter of discussion in the AIJ phase. But in principle it is clear that the projects to be implemented will have to prove a rate of return above alternative JI or CDM projects, taking into account the risks involved and combining the costs of obtaining ERUs with commercial benefits. The technical-economical potential will be only one of several elements determining whether a project is deemed attractive. The host countries’ overall investment climate – macro-economic development, political stability, the rule of law, tax policies etc. – will be equally, if not more, important. Moreover, the investors will consider the quality of institutions and people involved, the overall composition of possible projects in the pipeline, future market potential, and a host of other factors.

The level of foreign investments in Russia is very low, compared to other countries in transition.⁴ This is largely due to the continuously changing legal and economic framework conditions. Investors consider Russia one of the world's most risky countries. A system for approval, certification and verification of abatement projects that is impractical and unworkable will add new risks. The result could be that little of the vast technical-economical potential for low-cost abatement projects in Russia will be realised. This will be a pity for Russia, and for the rest of the world.

When designing a system for foreign investment in abatement projects, environmental integrity and simplicity have to be balanced. This means that requirements to quantify and prove a project's emissions reductions must not be so complex that they represent a serious obstacle to project implementation. However, the system should be robust to fraud and corruption, while at the same time being transparent and predictable. To design a system that will address all these requirements represents a challenge for any country. It is the hope that this report will contribute to the discussion in Russia, and at the same time help clarify the issues for potential foreign investors, including Norwegian companies.

2. JOINT IMPLEMENTATION (JI) AND EMISSIONS TRADING – STATUS

The Kyoto Protocol

The foundation for the flexibility mechanisms is established in Article 3 of the protocol,⁵ which defines the commitments of the parties. The article distributes assigned amounts, to be used in the period 2008-2012, to the countries that have taken on binding emission commitments. According to Articles 3.11 and 3.12 in the Protocol, the permits to be transferred under JI and emissions trading are subtracted from the assigned amount of the seller/host, and added to the assigned amount of the buyer/investor. Thus although the quotas

⁴ In 2000, inflow of foreign direct investment in Russia was reported at 2.7 bill. USD, compared to e.g. 9 billion net (inflow minus outflow) FDI in Poland. The highest inflow of FDI in Russia was reached in 1997 with 4.9 bill. USD. *PlanEcon Monthly Report*, 26 January, 2001 and 3 April, 2001.

⁵ <http://www.unfccc.de/resource/docs/convkp/kpeng.html>

under the two mechanisms have been given different names,⁶ what is being transferred is actually the same; it is a share of the assigned amounts.

Even if the result with regard to quota transfer is the same, JI and emissions trading work differently about transfer of capital:

- Under joint implementation, investors' money is channelled to specific projects that reduce emissions.
- Under emissions trading, the money goes to the seller of the permits without any restrictions on how the money has to be spent.

Additionality

According to the Kyoto Protocol (article 6.1), joint implementation projects should lead to 'reduction in emissions ... that would otherwise not occur'. There is a large body of literature discussing how this additionality requirement can be verified.⁷ However, the basic problem still remains: it is difficult to estimate the emission reductions caused by the project, compared to a future hypothetical level of emissions that would have occurred if the project had not been undertaken. The estimation of the emissions that would occur in the absence of the abatement project is usually referred to as the baseline, or a business-as-usual scenario (BAU). However, the estimation of business-as-usual emissions is plagued with uncertainty regarding how changes in the political, economic, and legal environment affect emissions levels. In addition, for many types of projects it will be difficult and costly to measure the reductions resulting from a project. Another complicating factor may be that an abatement project involves the use of equipment and goods, the manufacture of which causes GHG-emissions. Calculating such indirect emissions from a project can be laborious.

These and other difficulties and uncertainties could add substantial transaction costs and risks for the investor that will act as barriers to establishment of JI projects. Rigid procedures to

⁶ Assigned Amount Units (AAU) under emissions trading and Emission Reductions Units (ERU) under joint implementation.

⁷ In Russian texts 'additionality' as used here is sometimes confused with 'supplementarity'. Supplementarity refers to the requirements in the Kyoto Protocol that Joint Implementation and emissions trading should be 'supplemental to domestic actions' (in Annex 1 countries).

ensure additionality will also require a substantial bureaucratic apparatus to approve projects, and follow-up to verify and certify emissions reductions.

JI versus emissions trading

It would also be possible to carry out projects similar to those that will be undertaken under JI, within the framework of emissions trading. Under emissions trading, investing in abatement projects would be a way of paying for quotas – assigned amount units (AAUs). If emissions trading is used there will be no formal international requirements of certification and proof of additionality in the project. The amount of quotas transferred will be decided through negotiations between the parties. There is nothing in the Protocol that keeps the sellers and buyers of permits from setting up such deals. In other words, if Russia is eligible for emissions trading, it can itself certify the emissions reductions from JI projects and give AAUs to the investors. In such a case, Russia will not *need* to adopt a strict verification and certification system.

If Russia is *not* eligible for emissions trading, e.g. not meeting international standards for national reporting or not adhering to the rules for a greenhouse gas inventory (Article 7), projects will have to be verified involving a third party. The rules to be agreed and the bilateral agreement between the actors will define how ERUs can be transferred.⁸ Different solutions are possible. One option could be to allow transfer of ERUs only in accordance with verified emission reductions.

Russia probably still has some way to go to fulfil the requirements for national reporting, and become eligible for emissions trading. Thus, from the outset the country will have to comply with international requirements in establishing its approval system. Establishing a domestic system for approval, verification and certification that meets international requirements will probably also be helpful in ensuring a prompt start of foreign investments in abatement projects. Moreover, even when Russia becomes eligible for emissions trading at a later stage, the JI system might still be useful. As long as many of the fundamental problems in the Russian economy persist – e.g. non-payment and non-transparency – establishing an effective domestic system for emissions trading seems far off and a project-based approach more

realistic and practical. (The same basic problems are also problems for the project-based approach, albeit arguably lesser ones.) Thus, it is likely to still be a need for a system to approve and credit JI like abatement projects, even when this no longer is an international requirement.

The project-based system discussed in this report therefore builds on the international literature and the current provisions for joint implementation (JI) in the Kyoto Protocol.

Another upshot of this discussion is that the division line between JI and emissions trading may not be as sharp as one might think from the outset. And since emissions trading in principle looks like a much simpler solution than strict JI, the natural question is then why would Annex 1 countries bother to use JI instead of emissions trading as the mechanism for transfer of GHG-permits?

We believe that even if a country should be eligible for emissions trading, it may still be attractive to use a project-based approach with similarities to JI. As mentioned above, an efficient emissions trading system requires a well working, transparent market economy. Without these preconditions fulfilled it may become very difficult to manage an emissions trading system and ensure that it brings environmental benefits. A project-based approach may deliver more tangible results and benefits for the participants. In reality it will be easier to set-up and organise than domestic trading schemes for economies in transition. Thus, it seems likely that many of the Central and East European countries will use a project-based approach, not emissions trading, for domestic implementation.

The risk component

When the flexibility mechanisms have been formally established, an investor who is considering investing in a JI project is likely to be a private company. This means that the investor will assess the project on the basis of cost per ton reduced emissions, as well as risks and feasibility related to the project. Of course, all kinds of projects are subject to risks related to policy change, currency fluctuations, technology obsolescence, cost and time overrun, etc. It is important to stress that JI projects also will contain all these elements. However, there are

⁸ Ref. the Proposal presented by President Pronk at COP-6, 23 November 2000.

also some risks that are unique to JI projects. These risks are also different from straight emissions trading where the buyer will know that he will get a security⁹ in the form of AAUs. The unique risks associated with JI projects include:

- *Delays and non-approval:* Any JI project will have to be approved by Russian officials according to the specific approval system set up for JI projects (in addition to other approvals pertaining to all investments projects). This could take time, and time is money. There is always a risk that the negotiations between the Russian authorities and the investor will not come to a conclusion permitting the project to be carried out.
- *Low or non-certification:* As the emissions reduction from a JI project will normally be certified after the reductions have taken place, there is a risk of lower-than-expected certification or even non-certification. This risk could be particularly acute if third party certification (i.e. an international independent body) is required.

In addition to the risks emanating directly from the project in Russia, an investor will also take into consideration the price of alternatives: Carrying out emission reductions at home is of course an option that will be investigated. Furthermore, in a market for GHG-permits and certificates, buying AAUs in the market is an alternative to investing through project-based mechanisms (JI and CDM). An investor then also faces a risk that the alternative (AAU) will have a lower cost than initially expected. A schematic example of a risk calculation is provided in Appendix 1.

This is of course a very simplified presentation. Sophisticated investors will look at all variables that will affect profitability, risk and feasibility before making an investment. Different investors assess these risks in different ways, and investors' risk perceptions change over time. But the upshot of this discussion is that measures that can reduce the various risk elements will have great significance for the potential of JI.

⁹ Assuming that buyer liability is not introduced.

3. THE STRUCTURES THAT HAVE UNTIL NOW BEEN INVOLVED IN APPROVAL AND DEVELOPMENT OF JI (AIJ) PROJECTS IN RUSSIA

The institutional structure of Russian climate politics

In order to establish a well-functioning approval system for JI projects, the institutions dealing with climate policy have to be efficient, transparent and accountable. The current structure has deficiencies in these regards. Part of the reason for this is that the institutional foundation for dealing with climate change issues in Russia has not been stable. Over time, the activities of state organs responsible for making and implementing climate policies have been changing. In fact the scheme has been changing every six months or so. This is explained by two major factors: 1) General changes in the structure of federal organs of power (the structure of ministries and agencies, reorganisation, mergers, liquidation, or transfer of functions); 2) The accompanying rotation of key specialists in the field.

It takes a long time to include new ministries and agencies in practical work related to climate change, and few new specialists and organisations taking an interest in the issue have emerged, although the activity increased somewhat after the Kyoto-conference. A brief review of the history of the institutional scheme is necessary to understand the current situation.

Russia signed the Climate Convention in 1992 and ratified in December 1994. One of the first and most important steps in the formation of a Russian institutional system was the creation of the Inter-agency commission on climate change problems in 1994.¹⁰ The commission was entrusted with the following tasks: (1) co-ordination of all domestic climate measures; (2) fulfilment of obligations in the Convention; (3) organisation of Russian participation in the bodies under the Convention; as well as (4) the organisation of international co-operation.

It was established that the Commission should be chaired by the head of Rosgidromet (The Federal Service on Hydrometeorology and Environmental Monitoring) and composed of representatives from affected ministries and agencies, as well as leading scientists and climate specialists. The precise composition of the commission was to be confirmed by the govern-

ment upon a proposal from the chairman, co-ordinated with affected ministries and agencies. The commission was to meet when required, but not less than twice a year. It was to make decision by simple majority vote and its decisions were to be mandatory for all ministries and agencies represented in the Commission, as well as for enterprises, institutions and organisations working in its sphere of responsibility. Rosgidromet would serve as secretariat for the commission.

Thus a commission with broad responsibilities and formal authority was established, but with little power to back it up. It is especially striking that a commission with such mixed membership – ranging from official ministry representatives to individual specialists should make decisions at all, and even have authority over other government and non-government institutions. This was not credible, and it has not worked in practice. In addition, the turnover in the top echelons of the ministries as well as frequent reorganisations in the government structures has made it difficult to develop a consistent policy. So from the outset climate policy was not fixed to any powerful base in the executive branch of government.

Since its inception, the composition of the commission has changed twice, in 1997 and 1999.¹¹ The changes in the ministerial and state committee structure declared in May 2000¹² will necessitate further adjustments in the composition of the commission. Of particular importance was the dissolution of the State Committee on Environmental Protection (Goskomekologiya) and the State Forest Committee (Rosleskhoz). Their functions concerning climate change issues were transferred to the Ministry of Natural Resources. This ministry has fewer specialists working in this area. The new Ministry of Economic Development and Trade combines the functions of the previous Ministries of the Economy and the Ministry of Trade.

¹⁰ Resolution of the Government of the Russian Federation No. 346, 10 April, 1994.

¹¹ After Government resolution No. 1187 of 25 October, 1999, the commission had members from the following institutions: Rosgidromet, Ministry of Economics, Ministry of Agriculture and Food, Ministry of Atomic Energy, Ministry of Transport, Ministry of Finance, UES Rossia, Ministry of Trade, Institute of Energy Strategy, State Committee for the Environment, Ministry of Fuel and Energy, Ministry of Natural Resources, Institute of Physics of the Atmosphere, Gosstroy, Gazprom, Institute of the Global Climate and Ecology, Ministry of Defense, Ministry of Science and Technology, The Forest Committee, Rosstandart, Ministry of Health, Ministry of Foreign Affairs, Russian Space Administration, The Statistics Committee, The Meteorological Service, Ministry of Civil Defense, Emergencies and Natural Disasters.

¹² Decree of the Russian President No. 867, 17 May, 2000.

Currently three government organs play key roles in the climate field: The Ministry of Economic Development and Trade, The Ministry of Energy and Rosgidromet. The Ministry of Foreign Affairs and the Ministry of Natural Resources are also engaged, but to a lesser extent.

Until now the responsibility of the inter-agency commission for approving projects has been preserved. The commission reviews proposals for AIJ projects and makes decisions on their implementation. Anybody can submit proposals to the commission, but they must be presented in standard format. A group of specialists from the ministries that take part in the commission prepare draft decisions. However, the decision-process is not transparent, and relevant ministries are not always well informed about decisions. Furthermore, the commission lacks control of mechanisms that could stimulate activity. It also has very limited administrative resources. In practice, the commission is only a co-ordinating body, meeting two or three times a year. It had only one sitting in 2000.

An adjustment in the leadership of the Inter-agency Commission took place in 1999, when the Deputy Minister of Economic Development and Trade, Mr. M.M. Tsikanov became co-chairman. It was expected that this ministry would become more active in the preparation of documents for the commission. It seems, however that so far Rosgidromet continues to play the most important role. At the same time the Secretariat of the Convention only recognises the official approval of projects (until now AIJ projects) from the national representative of the Russian Federation, until now Rosgidromet.¹³

Before COP 6 in The Hague in November 2000, the environmental committee of the Duma played an active role in preparation of political positions. The committee established a working group, in which the Duma fraction 'Medved' was particularly active. This was the first time the Duma became directly engaged in preparing positions for the climate negotiations. Several sessions were organised with participation of representatives from the Ministry of Economic Development, The Ministry of Energy, the Ministry of Foreign Affairs, Rosgidromet and also some private companies and organisations including RAO "Unified Energy System of Russia" (RAO "EES Rossii"), RAO "Gazprom", Energy Carbon Fund of

RAO “EES Rossii”, Center for Preparation and Implementation of International Projects of Technical Cooperation (CPPI), Moscow WWF (World Wide Fund for Nature) Office, and the Center for Ecological Investments, along with the Duma’s environmental committee. As a result of the attention given by the Duma committee, for the first time the Russian delegation to the climate negotiations was headed by a deputy prime minister (V. Khristenko). Because of other pressing duties, he was not able to attend COP 6 personally. However, his official leadership was very important in providing legitimacy and power to the Russian delegation.

During COP 6 the Russian government declared in the political statement of the Russian delegation that it would be “ready to consider the possibility of targeted use of funds obtained from application of these [flexibility] mechanisms, for further reduction of GHG emissions”.¹⁴ This was a *political* declaration that indirectly addressed the hot air concerns, by arguing that Russia can use the funds from quota sales for emissions-reductions measures. However, this idea was presented more as a principle than a practicable action plan and it will have to be developed. The declaration did not get much reaction, however, neither among “Umbrella-Group” countries, nor among EU countries as well. The main reason for this may be that the declaration was not announced in advance, and was not especially highlighted in the National Policy Statement.

Summing up the state of affairs concerning development and implementation of Russian climate policy, it seems that the issue still largely is framed as an environmental issue only. The economic and energy aspects have not been given much room in the decision structure. This is a problem with regard to domestic implementation and development of the flexibility mechanisms. Another fundamental problem with the present institutional structure is that the Interagency Commission does not enjoy strong authority. At the same time, its mode of operation is not transparent. There is also an unclear division of responsibility between the commission and various other government bodies. Resolution of these problems must be found if the JI system shall be developed successfully.

¹³ The Russian Government gave Rosgidromet the responsibility to implement the provisions of the Convention in Government Resolution No. 346, 19 April, 1994.

¹⁴ National policy statement of the Russian Federation:
<http://cop6.unfccc.int/modules/conference.asp?page=result&CategoryID=7&pageID=27&CountryID=144&LanguageID=5&x=16&y=7>

The role of regional and local authorities

Most AIJ projects have been the result of a top-down process with initiatives taken by the centre (by the Ministry of Energy, for example) or by foreign investors or authorities, like the Environmental Protection Agency of the US government. (For an overview of AIJ-projects, see Appendix to this report.) The regions themselves have so far not been initiators of such projects. But there is now a tendency of increased regional activity, as regional authorities become more and more informed about the potential for project activities. Some regional and local authorities have participated in capacity building projects, but the number of such regions is small. Arkhangelsk oblast has initiated a dialogue with the central government to obtain the status of JI Pilot Region. This region, along with Novgorod, Chelyabinsk and Sakhalin oblasts, has also carried out an emission inventory.

From time to time reference is made to ‘regional’ or ‘sector’ quotas. Under the Convention, quotas are the property of the Federal Government – and only the federal level can decide about their possible distribution. However, one should not rule out some kind of quota allocation to Russian regions. This would only constitute a share of the national quota. For example, regions that receive the status of pilot JI region could be given the right to operate a certain volume of AAUs and determine at the regional level what kind of projects should be given priority. Such an approach could help reduce transaction costs. However, so far there is no common view on how quotas could or should be distributed and it is obvious that it would be difficult to design a ‘fair’ system for allocation of quotas to Russia’s 89 regions.

Major challenges

In sum, the ‘system’ that has been in place until now has not been efficient in attracting foreign investors, at the same time as it has been a barrier towards realisation of projects by Russian enterprises and regional authorities. The main explanation is that until now the central organ in Russian climate policy, Rosgidromet, has not been set up to deal with tasks related to the economy and the energy sector in particular. It is an environmental monitoring agency with a focus on the natural science aspects of the climate problem. Using the flexibility mechanisms requires a different kind of institution in the lead. It needs broad competence on the economy. Moreover, an efficient system will require both a clear

definition of tasks and responsibilities and integration of economic considerations with climate measures.

4. THE ORGANISATION OF JOINT IMPLEMENTATION PROJECTS

Main issues

Phases and functions

In principle we can distinguish between three different *phases* in the establishment of a joint implementation project:

- project *identification*,
- project *development* and
- project *implementation*.

At the same time, there are three separate ‘supervisory’ *functions* that have to be fulfilled if the project is going to be acknowledged internationally:

- project *approval*,
- *verification* and
- *certification*.

Approval, strictly speaking, refers to the official decision that a project can be carried out as a JI project. Verification takes place in two stages: first controlling and accepting the baseline for the project, and later when the project has been implemented, controlling that the emission reductions actually have occurred. (In practice these operations may be carried out at the same time, particularly in the case of smaller projects.) Certification is the official issuance of quotas (ERUs) based on the emission reductions achieved. In this report, the term ‘the approval system’ is used for the whole system including approval, verification and certification

As a main rule we would say that the three phases of JI projects are *business-related*, whereas the three functions are *government-related*. The practical question is how projects can be

organised and how these functions can be taken care of in a way that will fulfil the overall climate policy goals.

Top-down or bottom-up approach?

In principle there are two different approaches to the organisation of JI projects in Russia: top-down or bottom-up. Top-down would typically be a state programme with responsibility for identification and development of JI projects in co-operation with Russian companies, funded at least partly by foreign investors. In return for funding the projects, the investors would receive quotas. Such a top-down approach would mean a centralised decision-making structure and strong governmental involvement, much in line with Russian regulatory traditions. But to work in practice it would also require financial participation from the state, at least in an early phase. At present, the scope for state financial support seems very limited.

A bottom-up approach will mean less involvement from the government. The role of the government will mainly be to establish rules and procedures, ensure an attractive legal framework, and control that rules are followed. The initiative, the economic risks and the responsibility for practical implementation are left to companies, perhaps in alliance with foreign investors.

There appears to be many arguments favouring a bottom-up approach:

- increased awareness in the companies and more efficient identification of projects
- costs and responsibility will be left to the polluters (polluter-pay-principle)
- companies will carry the risks, not the taxpayer
- decentralisation gives more rational decision-making (shorter distance between decision and problem)
- less costly administration
- shorter project cycle from identification to implementation
- the system will be less subject to the political changes identified in this report (e.g. changes in the structure of government, changing political priorities, rotation of specialists)

Because of these advantages, the discussion below relates to a bottom-up approach. However, the arguments for such an approach do not entirely preclude a role for the state in the establishment of projects. In an early phase, Russian companies/organisations will have limited information and knowledge about the opportunities given by in the Kyoto Protocol. In order to kick-start project implementation, measures for information dissemination may be needed, and private-sector driven pilot-projects with state support will probably be helpful for some time. The key to success lies in creating sufficiently large and unbureaucratic programs, which contain real financial incentives for private sector participation.

Conflict of interest

A general risk in the establishment of the approval system is that various organs that become involved may have a bureaucratic self-interest in extending their influence and getting a share of the money. This in turn could make the process too slow and costly and deter Russian enterprises as well as foreign investors from engaging themselves in JI projects.

A typical western response to this problem is to call for the use of private, or independent, companies or organisations to perform such work under contract or license from the government. However, in today's Russia, the plethora of *quasi-private* structures set up by government bodies or individuals in these bodies are perhaps the largest challenge to transparency. Operations by government structures themselves usually will provide for more transparency than such structures do. Thus, when we in this report propose the use of private companies and organisations to carry out some of the government functions related to JI projects, we have in mind structures that are really separate from the government bodies or individuals in these bodies and that they are selected according to a transparent process.

In what follows, we discuss the various phases and functions mentioned above more systematically.

Identification of projects

The identification of projects will most naturally be done 'bottom-up', e.g., the potential receiver of JI investments will take the initiative, perhaps in alliance with a foreign investor,

and develop a project, including estimating the emissions reductions to be credited. However also others, who are not direct receivers of investments, could be initiators. Even government agencies and research/academic institutions should be allowed to take the initiative and assemble an efficient project development team. Of course, in order to be efficient there will have to be private sector involvement, but good initiators who can carry a project from the conception to development can be located in any type of institution.

To effectively identify and develop projects, the actors have to have knowledge about the procedures to be followed and means for getting in contact with foreign investors. The enterprises themselves are in the best position to assess the potential for, and the costs associated with emission reductions from their own facilities. But to establish contact with investors and design a project, help from consultants or research institutes may be needed. A low-cost option for the government to facilitate development of projects would be to establish an information centre, possibly an internet-site, where procedures and guidelines are available, and where project proposals can be posted.

An internet solution could typically contain:

- description of the kind of projects that can be approved
- description of how to proceed to get a project approved
- description of how to make a project plan
- description of how to estimate emissions reductions
- a place for posting project proposals¹⁵
- a database of potential partners, experts and financiers
- a list of government funds and guarantees and their requirements

Preferably, the site would also contain a description of all the government hurdles that projects have to overcome including the necessary applications for downloading.¹⁶

¹⁵ See e.g. <http://www.carbontradingexchange.com/cgi-bin/classifieds/classifieds.cgi>

¹⁶ Several such sites are likely to be established, but the difference with this site would be its comprehensiveness and the official stamp of approval.

Such a function should be placed in an organisation that has no vested interest in promoting specific projects. One possibility would be to tender it out to an institute or consulting company and renew the tender every second year or so. Such a scheme could possibly be realised with the support of international organisations.

Development and implementation of projects

The development and implementation of projects are also functions that will most naturally fall on the receivers of JI investments. Nevertheless, the authorities are important in the establishment of good framework conditions. The central government needs to develop a mechanism that can provide a legal basis for JI projects on the company level. This mechanism should include new investment regulations that will provide incentives for companies to develop JI activities (use of central and regional investment funds, system of guaranties for investors, etc.).

It would also help start projects if a system was established whereby such projects could have access to domestic financial resources like the State development budget (operated by the Ministry of Economic Development and Trade), and to ‘project return resources’ operated now by the Ministry of Finance. The project return resources consist of capital returned by Russian entities from previous loans to environmental investment projects under the activities of the Russian national pollution abatement facility (NPAF), which is one of the programmes of the Center for Preparation and Implementation of International Projects of Technical Cooperation (CPPI). A system with revolving loans from e.g. the World Bank could also be helpful.

Another issue would be provision of insurance of investments and environmental risks for JI Projects. Many potential foreign investors are reluctant to invest in the Russian economy, because of numerous risks, especially in big projects like heat and power plants. In such cases, even a guarantee from the government might be considered insufficient. The need for predictable conditions, over decades, is very strong. Like other projects in Russia, JI project activities are very risky and a system of special “GHG quota transfer insurance” should be developed, especially for the period before internationally approved regulations are established (see also below the discussion on risk-sharing).

It seems important that a clear line of division is drawn between the implementing organisations and the controlling authorities already from start. The business-related tasks should be organisationally separated from the government related functions to avoid political interference and conflict of interest. There is a risk that controlling authorities involved in development and implementation of projects could establish structures that would endanger transparent and unbiased control at a later stage. This means that the controlling body should not be involved in project development and implementation.

However, in an early phase, it could be argued that the government should initiate and co-sponsor a few pilot-projects to test and demonstrate the system for approval, certification and verification. Governmental bodies could carry out these pilot projects, possibly in cooperation with foreign partners. In order to get a realistic testing, the pilot-projects should follow the procedures and requirements that subsequent projects will have to follow.

Approval of projects – establishment of baselines

The initial approval for a project to start should be a fairly simple process in which it is checked that the particular project fulfills the criteria set up by the authorities. There clearly are arguments for centralisation of approval: It might seem easier to compare projects and select the most profitable ones with centralisation. However, it may also lead to more bureaucracy.

For some projects, which have regional importance, decentralised approval could mean faster approval time and sensitivity to regional needs. Given the still underdeveloped Russian market economy it will be hard to establish ‘objective’ criteria for comparison of projects. However, it is important that environmental and economic considerations prevail, as far as possible. At the same time, it seems vital to ensure that there is competition between projects *within* regions, as well as *between* regions to ensure efficiency.

The more complicated issue is the development and verification of baselines. Central to the notion of whether or not a climate mitigation project creates any “new”, or “additional” emissions reductions, is the idea that some sort of standard exists that the project’s activities can be measured against. This is, in effect, a benchmark of GHG emissions over time, which

is determined before the implementation of a project that seeks to reduce the level of emissions.¹⁷

As noted above, the requirement for baseline calculations will depend upon whether Russia becomes eligible for emissions trading or not. If it is eligible, baselines will only be an internal, domestic requirement. If it is not eligible, baselines will also be an issue for international verification.

There are many lively discussions surrounding the baseline issue and possible alternatives and approaches. Domestic approaches for development of project baselines in the energy production sector are being initiated in 2001 by UES Rossia.¹⁸

Who should define the baselines?

As noted above, identification of projects will most naturally be done 'bottom-up', e.g., the potential receiver of JI investments will take the initiative, perhaps in alliance with a foreign investor, and develop a project, including a baseline. Clearly, there is a risk that baselines may be flawed. The host of a JI project (the recipient of investments) wants the emission cuts to be as big as possible to make the project attractive for foreign investors. The host may therefore have an incentive to exaggerate the potential emission cuts.¹⁹ The foreign investor is also interested in as big cuts as possible and will thus be inclined to 'support' a baseline that shows a potential for large emission reductions.

There must be some sort of authority responsible for *verifying the baseline*, according to a set of criteria. This body must have a considerable technical expertise at its disposal. Nevertheless, this does not necessarily mean that the best solution is to build up a new large body, or that the function must necessarily be carried out by a government agency.

¹⁷ Christiana Figueres, Anne Hambleton et. al., "Implementing JI/AIJ: A Guide for Establishing Joint Implementation Programs", The Center for Sustainable Development in the Americas, 1996

¹⁸ An Energy Carbon Fund was established by UES Rossia (the main electricity provider), in August 2000 with the purpose of developing a uniform approach to energy efficiency improvements and GHG reduction in the system of heat and electricity production plants of UES Rossia (about 370 plants). However, so far the fund is not working since it has no capital.

¹⁹ Axel Michaelowa in 'Joint Implementation – the baseline issue – Economic and political aspects', *Global Environmental Change*, 8, 1, 1998, p. 81-92

Certification companies with a license to do so from a central authority could carry out the actual verification of baselines. Directly or indirectly, verification will be part of project costs and it is important to seek for solutions that keep the costs down. Of course, such companies must be controlled from time to time. They will lose their license and risk stiff penalties if their work is not up to agreed standards. The point here is that even if verification is a government-related function, it does not have to be *performed* directly by a government agency. It is important that new private monopolies to perform such functions are not created.

Participation of foreign firms in verification looks attractive and useful. The point of using such firms would be to secure international recognition and credibility, and also to provide necessary expertise. In an early phase the use of such firms may, however, be too costly to be covered by small and medium size projects.²⁰ A possibility is that such participation in an early phase would be covered by funds from investor countries, or GEF.

One could argue that an approving body should have the right to revise the baseline if the criteria for verification of the baseline are not fully met. We will argue, however, that the approving authority should only *accept or reject* the baseline put forward by the project developers. This will prevent long negotiation processes and induce greater discipline into the system. The project developer should, however, be allowed to come back with a revised baseline after a certain period of time.

Responsibility for approval, verification, certification and reporting

Approval, verification and certification are separate functions, but one authority may have the overall responsibility for them all. It would seem most natural that the approving body should be an interagency body with sufficient power in its sphere of decision-making. It might look like today's Climate Commission, but should have a stronger energy and economy component. However, we think it is important to separate between the regulatory and enforcement functions of the authority, and the technical functions. The latter should be licensed out to specialised organisations or companies to promote efficiency and keep costs down, as discussed above.

²⁰ The Energy Carbon Fund of UES Rossia is in discussion with Arthur Andersen about verification of projects at power plants. In this case the projects seem to be large enough to cover external verification.

Since the government is responsible for compliance vs. the Convention, and not the individual enterprises, a designated governmental body or an organisation authorised by the government should operate a national GHG registry. Such a registry will probably be a prerequisite for participation in emissions trading. The registry could probably be located in an existing government structure, the State Statistics Committee, Roskomstat or the Ministry of Natural Resources. This registry should contain data sector-by-sector and region-by-region as well as total emissions, and the body or organisation in charge should also carry out projections. To avoid the danger of overselling (emission transfers under Articles 17 and 6), this body might also estimate the total national volume of transferable emissions, for example on an annual basis. This body should also register abatement projects. This central body, first and foremost, has to monitor Russia's compliance. This means that a domestic reporting system must be set up and that regular reports on emissions must be collected.

Thus, the organisation of approval, verification and certification could be summed up as follows:

- Overall responsibility, including submissions to the UNFCCC secretariat: Authorised inter-agency body, with a strong attachment to the government.
- Approval of projects: Designated governmental body.
- Verification of baselines and emission reductions: Russian organisations may provide verification of all kinds of projects. In addition, it may be practical to engage foreign specialised organisations to verify some of the larger projects.
- Certification may be provided by an organisation authorised by the Russian government, possibly the same that operates the national registry.
- Operation of a national GHG registry: Designated governmental body or an organisation working under government license.

Application of the principles

Whereas we maintain that it is important to keep the different phases of project establishment and the various supervisory or government functions separate, it must also be discussed what are realistic organisational solutions in today's Russia. The Institute of Energy Strategy has put forward proposals for the organisation of activities to fulfil the obligations under the Kyoto Protocol, which are under consideration by the Energy Ministry, the Ministry of Economic Development and Rosgidromet.

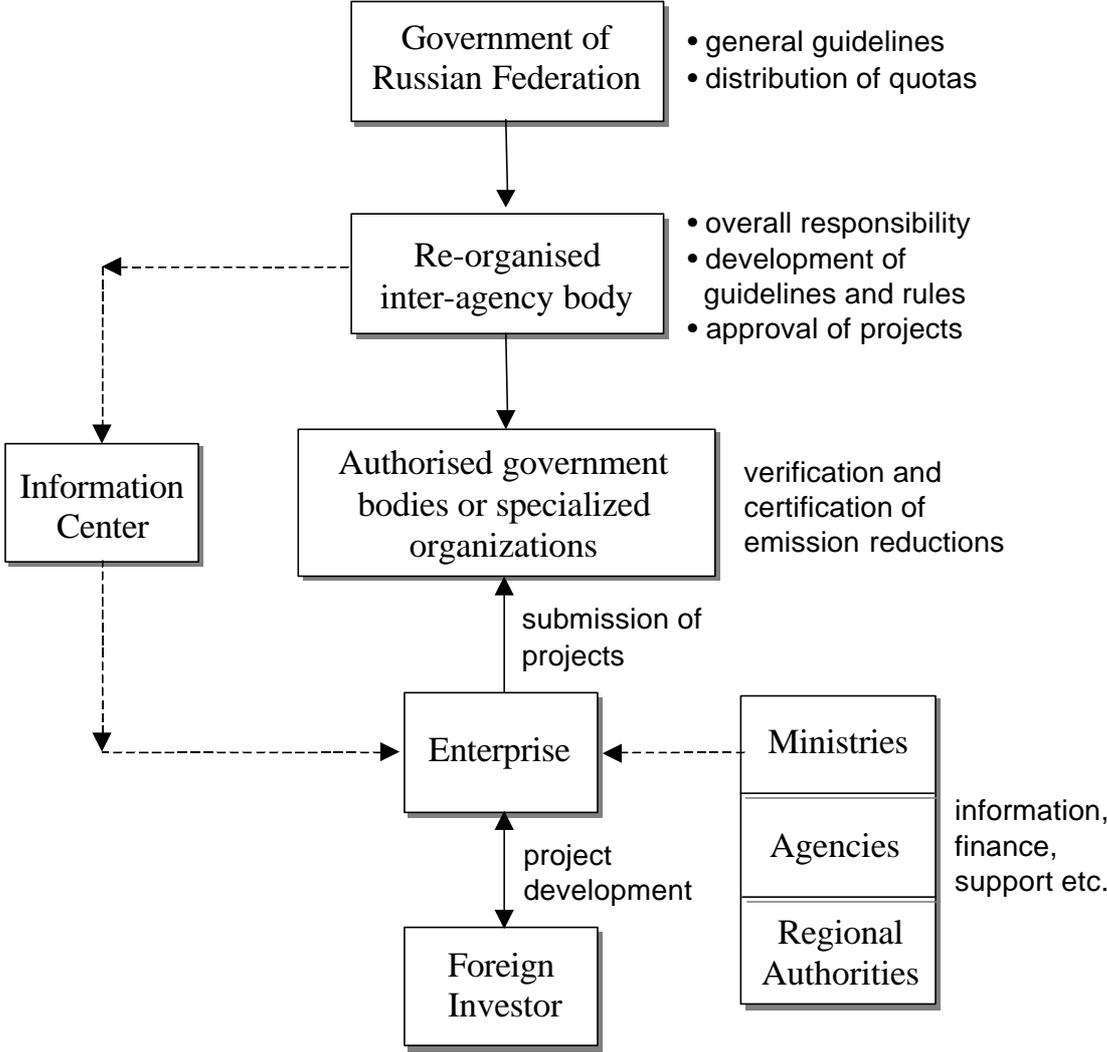
One proposal is to elevate the status of the Inter-agency commission to that of a *government commission*. In a variant of the proposal, a government *committee* for fulfilment of the Kyoto Protocol is established under the Ministry of Economic Development. The government committee will have an expert council and a registry.

A support role is envisaged for ministries, agencies and regional authorities. They can lend support to the project developer and help work out methodology, finance etc, but should not decide about approval of the projects. For this, the project developer should apply directly to the approval body designated by the government.

Figure: Outline of an approval system for JI projects in Russia

❖ This simplified scheme illustrates the main functions in the proposed system for approval of Joint Implementation projects. The dotted lines indicate the flow of information from organisations that do not have authority over the approval, verification and certification.

Outline of the Approval System for JI projects



In general, it is clear that the division of risk between Russian enterprise, foreign investor and the Russian state will have important consequences for the institutional set-up. Below we will discuss various approaches to the risk issue.

5. CO-OPERATION AND DIVISION OF RISK BETWEEN RUSSIAN AND FOREIGN CONTRACT PARTIES

Risk sharing

As discussed earlier, the risk will have a substantial impact on the value of a project. When Russian and foreign partners participate in a joint implementation project, ways for sharing the risks connected with the project will have to be found. At one extreme, the Russian partner carries all risks; at the other extreme, the foreign partner takes all the risk. In between these two extremes, many forms for arrangements are possible and will have to be established in the contracts between the partners. Examples of different arrangements for risk sharing are:

Western loans for abatement projects. Under such an arrangement, the Russian partner carries the risks connected to the project, both the project-specific risks and the price risks. The Western partner provides the financing and basically is exposed to the same risks as other foreign companies providing loans in Russia, such as the risk that the Russian partner does not pay back the loan, goes bankrupt, becomes insolvent etc.

Western economic contribution paid back in quotas. This scheme is rather similar to those that have been used by the World Bank Prototype Carbon Fund in the projects it has carried out. The Western partner provides the money needed for carrying out the abatement project, or a share of the investments needed, and is paid back in the form of a pre-defined number of quotas. In addition to the risks described in the previous example, the investor then carries the price-risk. The Russian counterpart carries the project-specific risks.

Joint Ventures. The division of risk may also be integrated into a more general agreement where the Western and Russian partner cooperate during the implementation of the project. In such cases, a joint venture might be established, and the risk sharing will be an integral part of

the overall cooperation contract. The risk sharing in the contract can take many forms and its details will have to be set depending on the more specific risks in the projects. The joint venture can be established to carry out the JI project only or it might cover a wider range of joint activities and cooperation.

Project-specific joint ventures seem most realistic with regard to projects leading to large emissions reductions. For smaller abatement projects, simpler forms of risk sharing will probably be more practical. However, if the JI project is part of e.g. a larger industrial co-operation the risk sharing might still take the form of a joint venture agreement, even if the abatement component is rather small.

Investor carries all risks. It is also possible to envisage schemes where the investor will assume all risks. This appears most relevant when a large abatement project has been identified, in which there is no need for a Russian industrial partner. This might for example be a large forestry project that can be carried out by western investors, potentially using Russian companies as sub-contractors. For such projects, government concessions might set out the specific risk arrangements. However, simpler schemes might also be used, for example after the same model as the Production Sharing Agreements (PSA) applied in the Russian energy sector. Under a PSA-like arrangement, the output of the abatement project, i.e. the quotas, can be split between the government and the investor according to a pre-defined formula. Under such schemes, the investor will be exposed to both the price risk and the project-specific risks. Thus, to be attractive to the investor the likely rate of return under such a risk-sharing scheme must probably be high.

Russian state guarantees

If Russia has excess quotas (see the discussion in the introduction to this report), a potential way of reducing the risks for foreign investors who want to participate in JI projects in Russia, is to use some of the excess quotas, or revenues from sale of such quotas, as guarantees. Such a scheme could for example mean that if the Russian partner cannot fulfil his obligations under the co-operation agreement, i.e. deliver the agreed quotas, the Russian state guarantees for a share of, or all of, the quotas.

Such an arrangement potentially opens up for fraud and non-transparency. It will be hard to control whether any of the partners do not fulfil their obligations. Therefore, strong mechanisms for control and verification will have to be elaborated and established.

However, if a state guarantee should be established, it would probably be advantageous for Russia if excess quotas rather than revenues from sale of quotas are used as guarantee, i.e. the investor is guaranteed a certain amount of quotas rather than a given revenue from the project. In case of the latter, the Russian state will not only be exposed to the project-specific risks, but also the price risks.

6. RUSSIA AND NORWAY

The role of Norwegian and Russian authorities with regard to future co-operation

This report argues that when the Kyoto Mechanisms have been brought into operation, the role of the governments should be limited mainly to establishing the proper framework conditions. It is also argued that there is likely to be considerable transaction costs connected to the use of the mechanisms, i.e. identifying projects, contract negotiations, approval and certification processes, etc. These transaction costs are likely to be largest in the initial phase before the mechanisms are streamlined. Therefore, there is a special need for the governments in the early phase to focus on streamlining the processes and thereby reducing transaction costs. In this regard there are several opportunities for co-operation between Norwegian and Russian authorities.

One possible co-operative activity is the establishment of contact points between Russian and Norwegian enterprises that might participate in JI projects. The simplest and cheapest solution could be a comprehensive Internet site *authorised by the government* to facilitate all JI-related activities. However, it could also take the form of exhibitions/fairs with the purpose of exchange of information between commercial actors, i.e. presentation of projects ideas/proposals/business plans. It would probably be advantageous if such exhibitions have a

regional focus and is located in a region/area that already has some experience with JI projects, or comparable projects, and where there is a potential for new projects in the future.

It will also be important to summarise the lessons learned from AIJ-projects in the pilot phase in a way that can give guidance to future projects, and on this basis discuss the establishment of operational procedures. More concrete, the lessons learned might take the form of manuals that describe how projects might be implemented, what the typical risks are, and how they can be reduced or eliminated. The manuals may also have a regional focus, i.e. describing what kind of projects have been carried out in particular regions, the lessons learned from these projects and a description of the kind of project that are most likely to be cost-effective, simple and feasible in the particular region. These manuals and other practical information could be made available on the Internet site.

If such co-operative activities are to be carried out it is natural that they are initiated from the Russian side. It also seems evident that if such activities are to succeed in attracting projects, considerable preparation will be needed. There is for example also a considerable risk involved if an exhibition is not successful the first time it is organised, as this might deter the investors from coming on later occasions.

The role of Norwegian and Russian business – possible partnerships for financing and implementation of projects

As discussed above, it is the business community that should be the primary movers for implementation of projects when the Kyoto mechanisms have been brought into operation. It also seems likely that the business community will be the main driving force for reducing transaction costs, and also other costs, by finding practical ways of doing things through experimentation and innovation.

It is not easy to predict the way such innovations might take, but there are at least two areas where it seems likely that new and creative solutions will be found. Firstly, it is the role of financiers. Usually, JI projects are thought of as projects where the foreign project-partner provides the money. In the future, one might foresee a range of financing schemes. For

example there might be third party financing where the project partners focus on the implementation of the project, but where the capital is provided by a third party, a professional investor, on the basis of business plans etc. The investor may invest in a broad range of JI activities in a number of countries and thereby be able to pool experiences from all these projects. The Russian and Norwegian project partners may on the other hand have a far more limited geographical focus.

Secondly, another area where innovations seem likely is on insurance schemes for JI projects. As described earlier in this report, there are a number of risks connected to JI projects; some strongly related to the particularities of the Kyoto Mechanisms; other risks are of a more general nature. Insurance companies provide instruments for mitigating such risks, and it seems likely that in the future a spectrum of new arrangements will be developed so that investors and hosts will be in a better position to handle the risks involved. The success of insurance schemes is dependent, however, on a significant effort to reduce the number and scale of risks involved in investing in Russia. The insurance could focus particularly on those risks, which the government or the JI institutions are not able to mitigate.

There will also be an important role to be played for actors that can provide independent information, analysis and advice, such as consultants, brokers and market makers. The Russian government has in the past been rather sceptical to the kind of services these actors provide. In combination with real projects and investment, these actors nevertheless play a necessary and valuable role by providing information and reducing transaction costs. These services are important vehicles for increasing the volumes traded or projects implemented, and are thereby forces that help to develop the market beyond the initial phase.

Afterword

This report has highlighted some of the crucial issues that have to be dealt with if Russia is to make use of the flexibility mechanisms in the Kyoto Protocol. Within the framework of a limited research project the coverage of all relevant issues is far from sufficient. The outcome of discussions in the Russian government about organisation of Russian climate policy will be one important starting point for further work, but it is also important to discuss the principles presented in this report in relation to concrete project proposals. The JI pilot regions under establishment may be a relevant ‘testing ground’.

Appendix 1: Example of risk calculation for a JI project

The following illustrates how the assessment of the risks will influence an investor's decision. An investor is considering investing to improve the efficiency of a Russian coal power plant. How will the various risks affect his decision of investing or not?

From the outset he believes that the future price of AAUs will be 10 USD/ton. However, he estimates that there is a 10% risk that the price could be 7 USD/ton. For his project to be profitable the investment will have to yield ERUs with a cost of $10 - 10\% * 7 = 9,3$ USD before the project specific risks are taken into consideration.

The investor believes that there is a 50% risk that 50% of the ERUs will fail to be certified. Considering this risk, the investment will have to yield ERUs at $9,3 * (100\% - 50\% * 50\%) = 7$ USD/ton to be profitable.

The investor believes that it is a 30% chance that the coal power plant goes bankrupt and that the investment will yield no ERUs. Taking this risk into account, the investment will have to yield ERUs at $7 \text{ USD/ton} * (100\% - 30\%) = 4,9$ USD/ton to be profitable.

Thus, in this example a JI project will have to yield almost twice as many ERUs than the investor could get by buying AAUs, due to the project specific risks. If then there is a considerable risk for long and tedious negotiations with the Russian officials to get the project approved and implemented, the investor will have to expect even better yield on the investment before entering into the negotiations. It should be noted that for many investors, time is of the absolute essence, i.e. they would not even be willing to do JI projects if they believe that there will be such delays and difficulties. In other words, no level of return will satisfy them because they have limited time and many other options.

Appendix 2: AIJ Projects in Russia

Projects that have been accepted, approved or endorsed by the designated national authorities for AIJ of the Parties concerned.

18 September 2000

Activity Type	Activity Title	Parties involved (Host/ Investor)	Lifetime (years)	GHG Impact (CO ₂ equivalent in metric tons)	Date of report
Afforestation	RUSAFOR: Saratov Afforestation Project	Russian Federation, United States of America	60	292,728	1996
Energy Efficiency	AIJ Project "Construction of the Steam-Gas Electrical Power Station "Kuban" and Local Heating Systems in Krasnodarsky Region"	Russian Federation, Germany	4	2,700,000	August 2000 *
Energy Efficiency	Horticulture Project in Tyumen	Russian Federation, The Netherlands	---	---	1997
Energy Efficiency	Modeling and Optimization of Grid Operation of the Gas Transportation System "Ushgorod Corridor" of Volgotransgas" (Gazprom)	Germany, Russian Federation	2	225,000	1997
Energy Efficiency	Zelenograd District Heating System Improvements	Russian Federation, United States of America	30	1,575,040	1997
Forest reforestation	Reforestation in Vologda	Russian Federation, United States of America	60	858,000	1997
Fuel switching	District Heating Tikhvin	Russian Federation, The Netherlands	---	---	
Fugitive gas capture	RUSAGAS: Fugitive Gas Capture Project	Russian Federation, United States of America	28	30,955,750	1996, 1997
Fugitive gas capture	Sanitary Landfilling with Energy Recovery in the Moscow Region	Russian Federation, The Netherlands	10	255,268	1997

Indicates project reports submitted after the deadline of 30 June 2000 for the fourth synthesis report on AIJ under the pilot phase.

--- Indicates that the information is not available.

Source: http://www.unfccc.de/program/aij/aijproj.html#footnote_a_ref

Implementation status of projects, Spring 2001

1. **RUSAFOR:** The first Russian AIJ project. Successfully implemented. The project started already in 1993 or 1994 and later (after COP1, which approved AIJ activities) the project got the status of official AIJ project. It is monitored in Russia by the International Forestry Institute (Isaev, Korovin).
2. **"Construction of the Steam-Gas Electrical Power Station "Kuban" and Local Heating Systems in Krasnodarsky Region":** The only Russian project approved by the Interagency Commission since 1998. It is not implemented and is reported to be "frozen" by the German side due to dissatisfaction with organisation on the Russian side.
3. **Horticulture Project in Tyumen:** Successfully implemented small scale project in Tyumen region. Absence of lifetime and GHG emission reduction data seems to be a mistake.
4. **Modeling and Optimization of Grid Operation of the Gas Transportation System "Ushgorod Corridor" of Volgotransgas" (Gazprom):** known as Gazprom-Rurgas methane pipeline leakages project. Successfully implemented medium scale project.
5. **Zelenograd District Heating System Improvements:** The project was well developed and approved, but did not find an investor.
6. **Reforestation in Vologda:** The same as item 5.
7. **District Heating Tikhvin:** The same as item 5.
8. **RUSAGAS:Fugitive Gas Capture Project:** The same as item 5.
9. **Sanitary Landfilling with Energy Recovery in the Moscow Region:** Successfully implemented and multiplied project in Moscow region